CLAIMS

1. A method for multiplexing, in MPEG stream processor, packets of input MPEG streams into one output transport stream with simultaneous correction of time stamps, where input streams of MPEG data are supplied with defined time stamps of their packets and at the same time packets of MPEG input streams are multiplexed and their time stamps are corrected in such a way that their set time stamps are removed and replaced with the values of time stamps calculated according to the algorithm, which detects and corrects the detected synchronization errors and next, packets with so corrected time stamps are appended suitably to the output MPEG stream, **characterized in that :**

a. packets of every input MPEG stream are transmitted from stream buffers to appropriate packet buffers, together with information about time relations between the neighboring packets of a given input MPEG stream and afterwards,

b. the packets of input MPEG streams are retrieved from the mentioned packet buffers to packet processing unit by means of a multiplexer

   i. and in the packet processing unit,

      - the time relations between the neighboring packets of input streams are checked and
      - the time relations are also checked for the state of the clock of a given output stream, the time of sending the last packet from a given packet buffer and the allowed time offset of packets in the output stream
      - and based on them the time stamps contained in them are corrected according to the value of the clock of the output MPEG stream

c. and next appropriately selected packets are appended to the output MPEG stream.

2. The method, according to claim 1, **characterized in that** the packets supplied to the stream buffers are filtered according to specific criteria.

3. The method, according to claim 2, **characterized in that** the criteria of filtering packets are specified by the PID numbers of the supplied packets.

4. The method, according to claim 1, **characterized in that** data are transmitted from stream buffers to packet buffers at the request of the output module.

5. The method, according to claim 1, **characterized in that** the data from stream buffers are transmitted to the packet buffers after checking that the packet buffer can receive them.

6. The method, according to claim 1, **characterized in that** in case of equipping the stream buffer with additional clock, the frequency of this clock adjusts to the frequency of the clock of time stamps of packets of a given stream, based on the average value, calculated from at least two measurements of the values of time stamps of packets of a given stream.

7. The method, according to claim 1, **characterized in that** in the system processing MPEG streams, changes of the quantity of available stream buffers are monitored by means of an independent process and based on these changes packet buffers are added or removed.

8. The method, according to claim 1, **characterized in that** time relations between the neighboring packets of a given stream are defined as a difference of the time stamps between the current, and the previous packet of a given stream.

9. The method, according to claim 8, **characterized in that** for the first packet from the given input stream, the time stamp of the previous packet is defined as equal to the time stamp of the current packet.